Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the

application:

Listing of Claims:

Claims 1-6 (Cancelled).

7.   (Previously presented)   The method as claimed in claim 8, wherein the first TCP/IP

connection is concurrent with the second TCP/IP connection.

8.   (Currently amended)   In a data processing network including a client, a first file server,

and a second file server, a method of access to a storage object in the first file server, said

method comprising:

the client using a block level access protocol over the network to access the storage

object in the first file server; and

the first file server accessing the storage object in the first file server by accessing a file

in the first file server containing data of the storage object;

which includes the first file server copying replicating a snapshot copy of the file from

the first file server over the network to the second file server concurrent with the step of the

client using the block level access protocol over the network to write data to the storage object in

the first file server;

wherein the network is an IP network, the client uses the block level <u>access</u> protocol over

a first TCP/IP connection over the network to access the storage object <u>in the first file server</u>, and

the client initiates the step of the <s>copying</s> <u>first file server replicating the snapshot copy</u> of the file

<u>over the network to the second file server</u> by sending a command over a second TCP/IP

connection <u>to the first file server</u>; and

which includes <s>the step of</s> the client pausing the step of writing of data to the storage

object <u>in the first file server</u> after a commit operation, and during the pause, the client performing

the step of initiating the <s>copying</s> <u>step of the first file server replicating the snapshot copy</u> of the

file <u>from the first file server over the network to the second file server</u> by sending the command

over the second TCP/IP connection.

9.   (Currently amended) The method as claimed in claim 8, which includes the <u>first</u> file

server also providing access to the storage object <u>in the first file server</u> over the network by

means of a file access protocol over the network, the file access protocol accessing the file <u>in the</u>

<u>first file server</u> containing the data of the storage object <u>in the first file server</u>.

10.   (Previously presented) The method as claimed in claim 9, wherein the file access

protocol is the Network File System (NFS) protocol.

11.   (Previously presented) The method as claimed in claim 9, wherein the file access protocol

is the Common Internet File System (CIFS) protocol.

Claims 12-18 (cancelled).

19.   (Previously presented)   The method as claimed in claim 20, wherein the first TCP/IP connection is concurrent with the second TCP/IP connection.

20.   (Currently amended)   In a data processing network including a client, a first file server, and a second file server, a method of access to a virtual direct access storage device in the first file server, attributes and data of the virtual direct access storage device being stored in at least one file in the first file server, said method comprising:

the client using a block level access protocol over the network to access the virtual direct access storage device in the first file server, the first file server responding to commands in accordance with the block level access protocol for access to the virtual direct access storage device in the first file server by accessing the attributes and data of the virtual direct access storage device in the first file server; and

the first file server providing access over the network to the virtual block storage device in the first file server in accordance with a file access protocol by accessing said at least one file in the first file server;

which includes the step of the first file server copying replicating a snapshot copy of said at least one file the data of the virtual direct access storage device from the first file server over the network to the second file server concurrent with the client using the block level access

protocol over the network to write new data to the virtual direct access storage device ~~in the first~~

~~file server~~;

wherein the network is an IP network, the client uses the block level <u>access</u> protocol over

a first TCP/IP connection over the network <u>to the first file server</u> to access the virtual direct

access storage device <u>in the first file server</u>, and the client initiates the step of ~~copying~~ <u>the first</u>

<u>file server replicating the snapshot copy</u> of said at least one file by sending a command over a

second TCP/IP connection <u>to the first file server</u>; and

which includes ~~the step of~~ the client pausing the writing of the new data to the virtual

direct access storage device <u>in the first file server</u> after a commit operation, and during the pause,

the client performs the step of initiating the ~~copying~~ <u>step of the first file server replicating the</u>

<u>snapshot copy of said at least one file</u> ~~of the data of the virtual direct access storage device~~ by

sending the command over the second TCP/IP connection <u>to the first file server</u>.

21.   (Previously presented) The method as claimed in claim 20, wherein the network is an IP

network, and the block level access protocol is the Small Computer System Interface (SCSI)

protocol.

22.   (Previously presented) The method as claimed in claim 20, wherein the file access

protocol is the Network File System (NFS) protocol.

23.   (Previously presented) The method as claimed in claim 20, wherein the file access

protocol is the Common Internet File System (CIFS) protocol.

Claims 24-26 (Cancelled).

27.   (Currently amended) A network file server comprising:

data storage;

an interface for coupling the data storage to a data network; and

at least one processor programmed for permitting clients in the data network to access the

data storage in accordance with a plurality of access protocols;

the data storage containing at least one file for storing file attributes and for storing

metadata defining a virtual direct access storage device and for storing data of the virtual direct

access storage device;

the access protocols including at least one block level access protocol for access to the

virtual direct access storage device by accessing the metadata and data of the virtual direct access

storage device; and

the access protocols including at least one file access protocol for accessing said at least

one file;

wherein the metadata includes attributes of the virtual direct access storage device, and

the attributes of the virtual direct access storage device and the data of the virtual direct access

storage device are stored together in a single file in a file system; and

~~wherein the metadata includes attributes of the virtual SCSI direct access storage device,~~

~~and the attributes of the virtual SCSI direct access storage device and the data of the virtual SCSI~~

~~direct access storage device are stored together in a single file; and~~

wherein the attributes of the virtual ~~SCSI~~ direct access storage device include a specification of an internal organization of the virtual ~~SCSI~~ direct access storage device <u>for mapping of the data of the virtual direct access storage device from the single file to the data storage</u>, and the specification of the internal organization of the virtual ~~SCSI~~ direct access storage device is stored in the single file.

28.   (Original) The network file server as claimed in claim 27, wherein the specified internal organization of the virtual direct access storage device includes a RAID level.

29.   (Original) The network file server as claimed in claim 27, wherein the specified internal organization of the virtual direct access storage device includes a striping pattern.

30.   (Previously presented) The network file server as claimed in claim 27, which includes a snapshot copy facility for copying the data of the virtual direct access storage device over the network concurrent with one of said clients using the block level access protocol over the network to write new data to the virtual direct access storage device.

31.   (Previously presented)   The network file server as claimed in claim 30, wherein the interface is an IP interface, and the network file server is programmed to permit said one of the clients ~~the client~~ to write the new data to the virtual direct access storage device using the block level access protocol over a first TCP/IP connection over the network for the writing of the new data to the virtual direct access storage device, and the network file server is programmed to

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initiate the copying of the file containing the data of the virtual direct access storage device over the network upon receipt of a command from the client over a second TCP/IP connection over the network.

32.   (Original)   The network file server as claimed in claim 31, wherein the network file server is programmed so that the first TCP/IP connection is concurrent with the second TCP/IP connection.

33.   (Previously presented)   The network file server as claimed in claim 27, wherein the interface is an IP interface, and wherein the network file server includes an IP replication facility for replicating files from the data storage over the network.

34.   (Previously presented)   The network file server as claimed in claim 27, wherein the interface is an IP interface, and the block level access protocol is the Small Computer System Interface (SCSI) protocol.

35.   (Previously presented)   The network file server as claimed in claim 27, wherein the file access protocol is the Network File System (NFS) protocol.

36.   (Previously presented)   The network file server as claimed in claim 27, wherein the file access protocol is the Common Internet File System (CIFS) protocol.

Claims 37-39 (Cancelled).

40.   (Currently amended)   A network file server comprising:

data storage;

an interface for coupling the data storage to an IP data network; and

at least one processor programmed for permitting clients in the data network to access the

data storage in accordance with a plurality of access protocols;

the data storage containing at least one file for storing file attributes and for storing metadata

defining a virtual Small Computer System Interface (SCSI) direct access storage device and for

storing data of the virtual direct access storage device;

the access protocols including a block level access protocol for permitting at least one of

said clients to access the virtual SCSI direct access storage device over the IP network by

accessing the metadata and data of the virtual direct access storage device;

the access protocols including at least one file access protocol for accessing said at least

one file; and

the network file server includes a facility for remote replication of said at least one file

over the IP network concurrent with write access of said at least one of said clients to the virtual

SCSI direct access device over the IP network using the block level access protocol;

wherein the metadata includes attributes of the virtual SCSI direct access storage device,

and the attributes of the virtual SCSI direct access storage device and the data of the virtual SCSI

direct access storage device are stored together in a single file in a file system; and

wherein the attributes of the virtual SCSI direct access storage device include a specification of an internal organization of the virtual SCSI direct access storage device <u>for mapping of the data of the virtual SCSI direct access storage device from the single file to the data storage</u>, and the specification of the internal organization of the virtual SCSI direct access storage device is stored in the single file.

41.   (Original) The network file server as claimed in claim 40, wherein the specified internal organization of the virtual SCSI direct access storage device includes a RAID level.

42.   (Original) The network file server as claimed in claim 40, wherein the specified internal organization of the virtual SCSI direct access storage device includes a striping pattern.

43.   (Previously presented) The network file server as claimed in claim 40, wherein the network file server is programmed to permit said at least one of said clients to write new data to the virtual SCSI direct access storage device using the block level access protocol over a first TCP/IP connection over the network, and the network file server is programmed to initiate remote replication of said at least one file upon receipt of a command from said at least one of said clients over a second TCP/IP connection over the network.

44.   (Original) The network file server as claimed in claim 43, wherein the network file server is programmed so that the first TCP/IP connection is concurrent with the second TCP/IP connection.

45.   (Previously presented) The network file server as claimed in claim 40, wherein said at least one file access protocol includes the Network File System (NFS) protocol.

46.   (Previously presented) The network file server as claimed in claim 40, wherein said at least one file access protocol includes the Common Internet File System (CIFS) protocol.

47.   (Previously presented) The network file server as claimed in claim 40, wherein the block-level access protocol includes the Small Computer System Interface (SCSI) protocol.

48.   (Previously presented) The network file server as claimed in claim 40, wherein the block-level access protocol includes the Small Computer System Interface (SCSI) over IP protocol.

49.   (Previously presented) The network file server as claimed in claim 40, which includes a snapshot copy facility for creating snapshot copies of said at least one file, and wherein the snapshot copy facility is coupled to the facility for remote replication for transmission of data from the snapshot copies over the IP network concurrent with client write access to the virtual SCSI direct access device over the IP network using the block level access protocol.